

# Christina M. Patricola

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## Assistant Professor

Department of Geological and Atmospheric Sciences  
Iowa State University  
[cmp28@iastate.edu](mailto:cmp28@iastate.edu)

## Research Interests

Climate dynamics, climate variability and change, extreme weather events, tropical cyclones, atmosphere-ocean interactions, high-resolution climate modeling, land-atmosphere interactions, paleoclimate

## Education

Ph.D. 5/2010 Atmospheric Science, minor in Quaternary Geology  
Cornell University, Ithaca, NY

M.S. 1/2007 Atmospheric Science  
Cornell University, Ithaca, NY

B.S. 5/2005 Geological Sciences, cum laude  
College of Engineering, Cornell University, Ithaca, NY

## Professional Experience

8/2020 – present	Assistant Professor	Department of Geological and Atmospheric Sciences Iowa State University, Ames, IA
8/2020 – present	Affiliate	Lawrence Berkeley National Laboratory (LBNL) Climate and Ecosystem Sciences Division Berkeley, CA
1/2019 – 8/2020	Program Domain Lead	Climate and Atmospheric Processes Program LBNL, Berkeley, CA
8/2016 – 8/2020	Research Scientist	Climate and Ecosystem Sciences Division LBNL, Berkeley, CA
9/2013 – 8/2016	Associate Research Scientist	Department of Atmospheric Sciences Texas A&M University, College Station, TX
8/2013 – 8/2016	Affiliate	Computational Research Division LBNL, Berkeley, CA
3/2012 – 9/2013	Assistant Research Scientist	Department of Atmospheric Sciences Texas A&M University, College Station, TX
8/2010 – 3/2012	Postdoctoral Research Associate	Department of Atmospheric Sciences Texas A&M University, College Station, TX
5/2005 – 5/2010	Graduate Research Assistant	Department of Earth and Atmospheric Sciences Cornell University, Ithaca, NY
5/2003 – 5/2005	Undergraduate Researcher	Department of Earth and Atmospheric Sciences Cornell University, Ithaca, NY

## Scholarly Service

1/2019 – present Editor, *Geophysical Research Letters* (311 manuscripts)

## Teaching Experience

- Fall 2021: Senior Research (MTEOR 499); 2 credits.
- Spring 2021: Writing for Research (MTEOR 399X); 1 credit. (19 students)
- Spring 2021: Atmosphere - Ocean Interaction (MTEOR 490F/590P); 2 credits. (11 students)

## Awarded Grants

**Title:** Variability and Change in Tropical Cyclone Characteristics: Coupled Atmosphere-Ocean Drivers and Coastal Impacts

**Sponsor:** U.S. Department of Energy (DOE) Office of Science [Early Career Research Program](#)

**PI:** **CM Patricola**

**Period:** 9/1/2020 – 8/31/2025

**Amount:** \$752,548

**Title:** Collaborative Research: The relationship between El Niño-Southern Oscillation (ENSO) Diversity and Tropical Cyclones in a Hierarchy of Models

**Sponsor:** National Science Foundation (NSF)

**PIs:** C Karamperidou (Univ. Hawaii); SJ Camargo (Columbia Univ.); **CM Patricola (Iowa State Univ.)**

**Co-PI:** C-Y Lee (Columbia Univ.)

**Period:** 3/15/2021 – 2/29/2024

**Amount:** \$221,003 (Iowa State Univ.)

**Title:** CALibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE) Scientific Focus Area (SFA)

**Sponsor:** U.S. Department of Energy (DOE)

**PI:** WD Collins

**Co-PI:** **CM Patricola**

**Period:** 10/1/2019 – 9/30/2022

**Amount:** \$8.25M

**Title:** Assessing the Influence of Background State and Climate Variability on Tropical Cyclones Using Initialized Ensembles and Mesh Refinement in E3SM

**Sponsor:** U.S. Department of Energy (DOE)

**PI:** R Saravanan

**Co-PI:** **CM Patricola**

**Period:** 9/1/2019 – 8/31/2022

**Amount:** \$896,107

**Title:** Anthropogenic Influences on Extreme Precipitation in the San Francisco Bay Area

**Sponsor:** City and County of San Francisco and San Francisco Public Utilities Commission (SFPUCC)

**PI:** **CM Patricola**

**Co-I:** MF Wehner

**Period:** 10/17/2018 – 6/15/2021

**Amount:** \$250,000

**Title:** Weather Effects on the Lifecycle of DoD Equipment Replacement (WELDER): A Plug-in for the BUILDER Sustainment Management System  
**Sponsor:** Department of Defense (DoD)  
**PI:** P Larsen  
**Co-PI:** **CM Patricola**  
**Period:** 3/1/2019 – 1/31/2022  
**Amount:** \$2,500,000

**Title:** Land-Atmosphere Coupling and Convection in the Water Cycle  
**Sponsor:** U.S. Department of Energy (DOE)  
**PI:** IN Williams  
**Co-PI:** M Torn  
**Co-I:** SC Biraud, TA O'Brien, **CM Patricola**  
**Period:** 2/1/2018 – 1/31/2021  
**Amount:** \$1,995,000

**Title:** The Impact of Canonical and Non-canonical El Niño and the Atlantic Meridional Mode on Atlantic Tropical Cyclones  
**Sponsor:** National Science Foundation (NSF)  
**PI:** **CM Patricola**  
**Co-PI:** P Chang and R Saravanan  
**Period:** 2/1/2014 – 1/31/2017  
**Amount:** \$220,314

**Title:** Understanding Causes of Climate Model Biases in the Southeastern Tropical Atlantic  
**Sponsor:** National Science Foundation (NSF)  
**PI:** P Chang  
**Co-PI:** **CM Patricola**  
**Period:** 9/1/2013 – 8/31/2016  
**Amount:** \$796,305

### **Subcontracts**

**Title:** CALibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE) subcontract  
**Subcontractor:** Lawrence Berkeley National Laboratory  
**Subcontract PI:** **CM Patricola**  
**Period:** 1/1/2021 – 9/30/2022  
**Amount:** \$216,158

**Title:** Conditional Probabilistic Event Attribution  
**Subcontractor:** Regents of the University of California and Lawrence Berkeley National Laboratory  
**Subcontract PI:** **CM Patricola**  
**Period:** 8/1/2014 – 7/31/2015

### **Computational Resource Awards**

**Title:** Understanding the Physical Drivers of Variability and Change in Extreme Weather Events  
**Sponsor:** NSF/Extreme Science and Engineering Discovery Environment (XSEDE)  
**PI:** **CM Patricola**  
**Amount:** 72,450 node hours, approx. 3.5 million Skylake core hours (\$18,808 equivalent)  
**Period:** 10/1/2019 – 3/31/2021

Title: Anthropogenic Influences on Extreme Precipitation in Convection-Permitting Climate Models  
Sponsor: DOE Office of Science  
PI: **CM Patricola**  
Amount: 2 million NERSC hours  
Period: 1/2019 – 1/2022

Title: Weather Effects on the Lifecycle of DoD Equipment Replacement (WELDER)  
Sponsor: DOE Office of Science  
PI: **CM Patricola**  
Amount: 2.0 million NERSC hours  
Period: 1/2019 – 1/2022

Title: The Impact of Canonical and Non-canonical El Niño and the Atlantic Meridional Mode on Atlantic Tropical Cyclones  
Sponsor: NSF/Extreme Science and Engineering Discovery Environment (XSEDE)  
PI: **CM Patricola**  
Co-PI: P Chang and R Saravanan  
Amount: 10 million core hours (\$357,122 equivalent)  
Period: 7/1/2014 – 6/30/2017

## Peer-reviewed Publications

### In review or in revision

1. **Patricola** CM, Wehner MF, Bercos-Hickey E, Maciel FV, May C, Mak M, Yip O, Roche A, Leal S (2021) Future Changes in Extreme Precipitation over the San Francisco Bay Area: Dependence on Atmospheric River and Extratropical Cyclone Events, *Weather and Climate Extremes*, in review.
2. Huang H, **Patricola** CM, Collins WD (2021) The Influence of Ocean Coupling on Simulated and Projected Tropical Cyclone Precipitation in the HighResMIP-PRIMAVERA Simulations, *Geophysical Research Letters*, in revision.
3. Sobel AH, Wing AA, Camargo SJ, **Patricola** CM, Vecchi G, Lee, C-Y, Tippett M (2021) Tropical Cyclone Frequency and Climate. *Earth's Future*, in review.
4. Bercos-Hickey E, **Patricola** CM, Gallus WA, Jr. (2021) Anthropogenic Influences on Tornadoic Storms. *Journal of Climate*, in revision.

### 2021

5. Bercos-Hickey E, **Patricola** CM (2021) Anthropogenic Influences on the African Easterly Wave-African Easterly Jet System. *Climate Dynamics*.
6. Huang H, **Patricola** CM, Winter JM, Osterberg EC, Mankin JS (2021) Rise in Northeast US Extreme Precipitation Caused by Ocean Variability and Climate Change. *Weather and Climate Extremes*, in press.
7. Fu D, Chang P, **Patricola** CM, Saravanan R, Beck H (2021) Central American mountains inhibit eastern North Pacific tropical cyclone activity. *Nature Communications*, in press.
8. Huang H, **Patricola** CM, Bercos-Hickey E, Zhou Y, Rhoades AM, Risser MD, Collins WD (2021) Sources of Subseasonal-to-Seasonal Predictability of Atmospheric Rivers and Precipitation in the Western United States. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD034053.
9. Kurian J, Li P, Chang P, **Patricola** CM, Small J (2021) Impact of the Benguela Coastal Low-Level Jet on the Southeast Tropical Atlantic SST Bias in a Regional Ocean Model. *Climate Dynamics*, 56, 2773-2800.
10. Lin I-I, Rogers RF, Huang H-C, Liao Y-C, Yu J-Y, **Patricola** CM, Zhang JA, Herndon D, Chang Y-T, Pun I-F, Lien C-C (2021) A Tale of Two Rapidly-Intensifying Supertyphoons: Hagibis (2019) and Haiyan (2013). *Bulletin of the American Meteorological Society*, in press.

11. Hagos S, Leung LR, Garuba O, **Patricola** CM (2021) Influence of Background Divergent Moisture Flux on the Frequency of North Pacific Atmospheric Rivers. *Journal of Climate*, in press.
12. Zhou Y, O'Brien TA, Ullrich PA, Collins WD, **Patricola** CM, Rhoades AM (2021) Uncertainties in Atmospheric River Life Cycles by Detection Algorithms: Climatology and Variability. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD033711.
13. Risser MD, Wehner MF, O'Brien JP, **Patricola** CM, O'Brien TA, Collins WD, Paciorek CJ, Huang H (2021) Detection and attribution for observed precipitation over the contiguous United States - Part I: quantifying the influence of natural climate variability on in situ measurements of seasonal total and extreme daily precipitation. *Climate Dynamics*, 56, 3205-3230.
14. Liu X, Ma X, Chang P, Jia Y, Fu D, Xu G, Wu L, Saravanan R, **Patricola** CM (2021) Ocean Fronts and Eddies Remotely Forcing Atmospheric Rivers and Heavy Precipitation. *Nature Communications*, 12, 1268.

## **2020**

15. Balaguru K, **Patricola** CM, Hagos SM, Leung LR, Dong L (2020) Enhanced Predictability of Eastern Pacific Hurricane Activity using the ENSO Longitude Index. *Geophysical Research Letters*, 47, e2020GL088849.
16. Rhoades AM, Jones AD, Srivastava A, Huang H, O'Brien TA, **Patricola** CM, Ullrich PA, Wehner MF, Zhou Y (2020) The Shifting Scales of Western US Landfalling Atmospheric Rivers. *Geophysical Research Letters*, 47, e2020GL089096.
17. Gutowski Jr WJ, Hall A, Leung LR, O'Brien TA, **Patricola** CM, Ullrich PA, Coauthors (2020) The ongoing need for high-resolution regional climate models: Process-understanding and stakeholder information. *Bulletin of the American Meteorological Society*, **101** (5): E664–E683.
18. O'Brien, TA, Payne AE, Shields CA, Rutz J and **Coauthors** (2020) Detection Uncertainty Matters for Understanding Atmospheric Rivers. *Bulletin of the American Meteorological Society*, 101, E790-E796.
19. O'Brien TA, Risser MD, Loring B, Elbashandy AA, Krishnan H, Johnson J, **Patricola** CM, O'Brien JP, Mahesh A, Prabhat, Ramirez SA, Rhoades AM, Charn A, Diaz HI, Collins WD (2020) Detection of Atmospheric Rivers with Inline Uncertainty Quantification: TECA-BARD v1.0. *Geoscientific Model Development*, 13(12), 6131–6148.
20. **Patricola** CM, O'Brien JP, Risser MD, Rhoades AM, O'Brien TA, Ullrich PA, Stone DA, Collins WD (2020) Maximizing ENSO as a Source of Western US Hydroclimate Predictability. *Climate Dynamics*, 54, 351-372.

## **2019**

21. Walsh KJE, Camargo SJ, Knutson TR, Kossin JP, Lee T-C, Murakami H, **Patricola** CM (2019) Tropical cyclones and climate change. *Tropical Cyclone Research and Review*, 8, 240-250.
22. Fu D, Chang P, **Patricola** CM, Saravanan R (2019) High Resolution Tropical Channel Model Simulations of Tropical Cyclone Climatology and Intraseasonal-to-Interannual Variability. *Journal of Climate*, 32, 7871-7895.
23. Hsu W-C, **Patricola** CM, Chang P (2019) The Impact of Climate Model Sea Surface Temperature Biases on Tropical Cyclone Simulations. *Climate Dynamics*, 53 (1-2), 173-192.
24. O'Brien JP, O'Brien TA, **Patricola** CM, Wang S-Y (2019) Metrics for Understanding Large-scale Controls of Multivariate Temperature and Precipitation Variability. *Climate Dynamics*, 53, 3805-3823.
25. Foltz G and **Coauthors** (2019) The Tropical Atlantic Observing System. *Frontiers in Marine Science*, 6 (206), 1-36.
26. Vahmani P, Jones AD, **Patricola** CM (2019) Interacting implications of climate change, population dynamics, and urban heat mitigation for future exposure to heat extremes. *Environmental Research Letters*, 14 (8), 084051.

## 2018

27. **Patricola** CM, Wehner MF ([2018](#)) Anthropogenic Influences on Major Tropical Cyclone Events. *Nature*, 563, 339-346.
28. Williams IN, **Patricola** CM ([2018](#)) Diversity of ENSO Events Unified by Convective Threshold Sea Surface Temperature: A Nonlinear ENSO Index, *Geophysical Research Letters*, 45, 9236-9244.
29. Timmermans B., **Patricola** CM, Wehner MF ([2018](#)) Simulation and Analysis of Hurricane-Driven Extreme Wave Climate Under Two Ocean Warming Scenarios. *Oceanography*, 31(2), 88-99.
30. **Patricola** CM, Saravanan R, Chang P ([2018](#)) The Response of Atlantic Tropical Cyclones to Suppression of African Easterly Waves. *Geophysical Research Letters*, 45, 471-479.
31. **Patricola** CM, Camargo SJ, Klotzbach P, Saravanan R, Chang P ([2018](#)) The Influence of ENSO Flavors on Western North Pacific Tropical Cyclones. *Journal of Climate*, 31(14), 5395-5416.

## 2017

32. **Patricola** CM, Saravanan R, Chang P ([2017](#)) A Teleconnection Between Atlantic Sea Surface Temperature and Eastern and Central North Pacific Tropical Cyclones. *Geophysical Research Letters*, 44, 1167-1174. [EOS research spotlight]
33. **Patricola** CM, Chang P ([2017](#)) Structure and Dynamics of the Benguela Low-Level Coastal Jet. *Climate Dynamics*, 49, 2765-2788.
34. Fu D, Chang P, **Patricola** CM ([2017](#)) Impact of Central American Gap-Winds on Intrabasin Variability of Eastern North Pacific Tropical Cyclones During ENSO. *Scientific Reports*, 7, 1658.
35. Pall P, **Patricola** CM, Wehner MF, Stone DA, Paciorek C, Collins WD ([2017](#)) Diagnosing Conditional Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013. *Weather and Climate Extremes*, 17, 1-6.

## 2016

36. **Patricola** CM, Chang P, Saravanan R ([2016](#)) Degree of simulated suppression of Atlantic tropical cyclones modulated by flavour of El Niño. *Nature Geoscience*, 9, 155-160.
37. Zuidema P and **Coauthors** ([2016](#)) Challenges and Prospects for Reducing Coupled Climate Model SST Biases in the Eastern Tropical Atlantic and Pacific Oceans: The U.S. CLIVAR Eastern Tropical Oceans Synthesis Working Group. *Bulletin of the American Meteorological Society*, 97, 2305-2328.

## 2015

38. **Patricola** CM, Chang P, Saravanan R ([2015](#)) Impact of Atlantic SST and High Frequency Atmospheric Variability on the 1993 and 2008 Midwest Floods: Regional Climate Model Simulations of Extreme Climate Events. *Climatic Change*, 129, 397-411.
39. Walsh KJE and **Coauthors** ([2015](#)) Hurricanes and Climate: The U.S. CLIVAR Working Group on Hurricanes. *Bulletin of the American Meteorological Society*, 96, 997-1017.
40. Daloz AS and **Coauthors** ([2015](#)) Cluster Analysis of Downscaled and Explicitly Simulated North Atlantic Tropical Cyclone Tracks. *Journal of Climate*, 28, 1333-1361.

## 2014

41. **Patricola** CM, Saravanan R, Chang P ([2014](#)) The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity. *Journal of Climate*, 27, 5311-5328.
42. Liu Y, Chiang JCH, Chou C, **Patricola** CM ([2014](#)) Atmospheric teleconnection mechanisms of extratropical North Atlantic SST influence on Sahel rainfall. *Climate Dynamics*, 43, 2797-2811
43. Xu Z, Li M, **Patricola** CM, Chang P ([2014](#)) Oceanic Origin of Southeast Tropical Atlantic Biases. *Climate Dynamics*, 43, 2915-2930.

## **2013**

44. **Patricola** CM, Cook KH ([2013](#)) Mid-twenty-first century climate change in the Central United States. Part II: Climate change processes. *Climate Dynamics*, 40, 569–583.
45. **Patricola** CM, Cook KH ([2013](#)) Mid-twenty-first century warm season climate change in the Central United States. Part I: Regional and global model predictions. *Climate Dynamics*, 40, 551–568.

## **2012 and earlier**

46. **Patricola** CM, Li M, Xu Z, Chang P, Saravanan R, Hsieh J-S ([2012](#)) An Investigation of Tropical Atlantic Bias in a High-Resolution Coupled Regional Climate Model. *Climate Dynamics*, 39, 2443–2463.
47. **Patricola** CM, Cook KH ([2011](#)) Sub-Saharan Northern African climate at the end of the twenty-first century: Forcing factors and climate change processes. *Climate Dynamics*, 37, 1165–1188.
48. **Patricola** CM, Cook KH ([2010](#)) Northern African climate at the end of the twenty-first century: An integrated application of regional and global climate models. *Climate Dynamics*, 35, 193–212.
49. Cook KH, Vizy EK, Launer ZS, **Patricola** CM ([2008](#)) Springtime intensification of the Great Plains low-level jet and Midwest precipitation in GCM simulations of the twenty-first century. *Journal of Climate*, 21, 6321–6340.
50. **Patricola** CM, Cook KH ([2008](#)) Atmosphere/Vegetation Feedbacks: A mechanism for abrupt climate change over northern Africa. *Journal of Geophysical Research*, 113, D18102.
51. **Patricola** CM, Cook KH ([2007](#)) Dynamics of the West African Monsoon under Mid-Holocene precessional forcing: Regional climate model simulations. *Journal of Climate*, 20, 694–716.

## **Book Chapters**

- Lin I-I, Camargo SJ, **Patricola** CM, Boucharel J, Chang S, Klotzbach P, Chan J, Wang B, Chang P, Li T, Jin F-F ([2020](#)) Chapter 17: ENSO and Tropical Cyclones. In ENSO in a Changing Climate. (eds McPhaden M, Santoso A, Cai W) AGU Monograph Series. ISBN: 978-1-119-54812-6.
- Wehner MF, Zarzycki C, **Patricola** CM ([2019](#)) Estimating the Human Influence on Tropical Cyclone Intensity as the Climate Changes. In: Collins J., Walsh K. (eds) Hurricane Risk. Hurricane Risk, vol 1. Springer, Cham, 235-260.

## **Climate Assessment Reports**

- Contributing Author:** Collins M and Coauthors ([2013](#)) Long-term Climate Change: Projections, Commitments and Irreversibility. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Contributing Author:** Chapter 11, Weather and climate extreme events in a changing climate. In: The Sixth Assessment Report (AR6) Climate Change 2021: The Physical Science Basis. *In preparation*.

## **Other Publications**

- Kirtman B, Meehl G, **Patricola** CM (2020) "Multi-year Earth system variability, predictability and prediction" in Advancing Understanding of Variability, Predictability, and Change Across Spatiotemporal Scales: A Whitepaper Synthesizing Current and Future Earth System Science Research.
- Patricola** CM ([2018](#)) Tropical Cyclones Are Becoming Sluggish. *Nature News & Views*, 558, 36-37.
- Feng Y, Negron-Juarez RI, **Patricola** CM, Collins WD, Uriarte M, Hall JS, Clinton N, Chambers JQ ([2018](#)) Rapid remote sensing assessment of impacts from Hurricane Maria on forests of Puerto Rico. *PeerJ Preprints* 6:e26597v1.

**Patricola** CM, Chang P, Saravanan R, Li M, Hsieh J-S (2011) An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model, *U.S. CLIVAR Variations*, 9 (2), 9-12.

**Patricola** CM, Cook KH (2007) The African Humid Period: Evidence for abrupt climate change in northern Africa. *Climate Variability and Predictability (CLIVAR) Focus on Africa*, 2pp.

### **Synergistic Activities**

2011 – 2014 U.S. CLIVAR Hurricane Working Group ([HWG](#))  
2018 – Member, Scientific Steering Group, Prediction and Research Moored Array in the Tropical Atlantic (PIRATA)  
2018 Working Group member, 9<sup>th</sup> International Workshop on Tropical Cyclones ([IWTC-9](#))  
1/15/2020 Session Chair, Identifying the Climate Change Signal in Weather Events, American Meteorological Society 100<sup>th</sup> Annual Meeting, Boston MA  
1/22/2020 Panelist, Miami Climate Symposium 2020: Predicting and Living with Extremes, Miami FL  
5/12/2021 Panelist, Climate Change and Tropical Cyclones, AMS 34<sup>th</sup> Conference on Hurricanes and Tropical Meteorology Virtual Meeting

### **Postdoctoral Advisees**

- Ana Sena, Iowa State University (6/2021-present)
- Huanping Huang, LBNL (9/2019-present)
- Emily Bercos-Hickey, LBNL (6/2019-present)

### **Graduate Advisees**

- Teryn Mueller, Iowa State University (5/2021-present)
- Dakota Forbis, Iowa State University (8/2021-present)

### **Graduate Committee Member**

- Indrani Ganguly, Iowa State University (2021-present)
- Elise Schultz, Iowa State University (2020-present)
- Alaina Chormann, Iowa State University (2020-present)
- Dan Fu, Texas A&M University (2014-2018); now at Texas A&M
- Wei-Ching Hsu, Texas A&M University (2014-2018); now at University of Hawaii
- John P. O'Brien, University of California, Santa Cruz/LBNL (2016-2019); now at NCAR

### **Undergraduate Advisees**

- Daniel Cassidy, Meteorology Senior Thesis advisor, Iowa State University (2021)
- Nathan Erickson, Meteorology Senior Thesis advisor, Iowa State University (2021)
- Juan Mangual, Meteorology Senior Thesis advisor, Iowa State University (2021)
- Jared Schadler (Summer 2021)
- Grace Hansen, First-Year Honors Program, Iowa State University (Spring 2021)
- Allysa Dallman, LAS Dean's High Impact Award, Iowa State University (Spring 2021)
- Allysa Dallman, Meteorology Senior Thesis co-advisor, Iowa State University (Fall 2020)
- Flor Vanessa Maciel, Berkeley Lab Undergraduate Research program, LBNL (Summer 2020); now at San Jose State University



## Reviewer

- **Funding agencies:** Department of Energy; National Science Foundation; Natural Environment Research Council of the UK
- **Journals:** Nature; Nature Geoscience; Nature Communications; Geophysical Research Letters; Journal of Climate; Climate Dynamics; PNAS; Climatic Change; Journal of Geophysical Research; Earth and Planetary Science Letters; International Journal of Climatology; Scientific Reports; Weather and Forecasting; International Journal of Geophysics; WIREs Climate Change; Advances in Meteorology; Earth Interactions; npj Climate and Atmospheric Science; Earth and Space Science
- **Reports:** California's Fourth Climate Change Assessment

## Awards

2013	Outstanding Research Staff Award, Dept. Atmospheric Sciences, Texas A&M
1/2006	AMS Global Change & Climate Variation Travel Scholarship
6/2005 – 5/2006	Cornell University Fellowship
5/2004 – 9/2004	NASA/NY Space Grant, awarded by Cornell University

## Service

11/2020	Judge, 28th Annual Iowa State University Atmospheric Science Undergraduate Research Symposium
10/2020	Session co-chair, Multi-year Earth system variability, predictability and prediction, U.S. Department of Energy (DOE) Regional and Global Model Analysis (RGMA) Principal Investigators (PI) Virtual Meeting
1/2020-8/2020	Organizer, DOE RGMA Climate Extremes Monthly Meeting
2019-2020	Area Council Member, Earth and Environmental Sciences Area (EESA), LBNL
2019-2020	Division Council Member, Climate and Ecosystem Sciences Division (CESD), LBNL
12/2019	Organizer, LBNL EESA Climate Modeling booth at AGU Fall Meeting
10/14/2019	Organizer, DOE BER Climate and Environmental Sciences Division Program Manager site visit to LBNL
6/2019	Prepared slides, DOE BER Science & Technology (S&T) presentation, EESA, LBNL
2/21/2019	Organizer and presenter, session on DOE BER RGMA projects during LBNL site visit by Director of DOE BER Climate and Environmental Sciences Division
2/2019	Proposal Reviewer, Laboratory Directed Research & Development (LDRD), EESA, LBNL

## Volunteer Experience

2018	Mentor, Earth and Environmental Sciences Area Mentoring Program, LBNL
5/2017	Volunteer at California State University STEM Career Awareness Day
2017 – 2018	Seminar coordinator, LBNL, Climate and Ecosystem Sciences Division
4/2016	Judge for Student Poster Competition, AMS 32 <sup>nd</sup> Conference on Hurricanes and Tropical Meteorology
2004 – 2008	Seminar coordinator, Cornell University, Dept. of Earth & Atmospheric Sciences

## Professional Affiliations

2005 – present	American Meteorological Society ( <a href="#">AMS</a> )
2006 – present	American Geophysical Union ( <a href="#">AGU</a> )
2020 – present	<a href="#">Sigma Xi</a>

## Invited Talks

### 2020

Anthropogenic Influences on Major Tropical Cyclone Events. Miami Climate Symposium 2020: Predicting and Living with Extremes, **University of Miami**, Miami FL.

Variability and Change in Tropical Cyclone Characteristics. Regional and Global Model Analysis (RGMA) Principal Investigators (PI) Meeting, **U.S. Department of Energy (DOE)**, virtual.

### 2019

Natural and Anthropogenic Influences on Tropical Cyclones. Department of Atmospheric Sciences, **Texas A&M University**, College Station TX.

Natural and Anthropogenic Influences on Tropical Cyclones. Department of Geological and Atmospheric Sciences, **Iowa State University**, Ames IA.

Natural and Anthropogenic Influences on Tropical Cyclones. The University of Texas Institute for Geophysics (UTIG) Seminar Series, **The University of Texas at Austin**, Austin TX.

Natural and Anthropogenic Influences on Tropical Cyclones. GFDL seminar series, **GFDL**, Princeton NJ.

Characterizing El Niño's Diversity and its Climate Implications. Berkeley Geography Colloquium, **University of California, Berkeley** CA.

Attribution of Extreme Weather Events to Climate Variability and Change. **2019 California Extreme Precipitation Symposium (CEPSYM)**, University of California Davis, Davis CA.

### 2018

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Atmosphere, Ocean, and Climate Dynamics Brown Bag Seminar, **Stanford University**, Stanford, CA.

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. **AGU Fall Meeting**, Washington DC.

### 2017

Oceanic and Atmospheric Sources of Tropical Cyclone Predictability. [Workshop](#) on Atlantic Climate Variability – Dynamics, Prediction and Hurricane Risk, **Columbia University**, New York City, NY.

Anthropogenic Influences on Tropical Cyclone Intensity and Rainfall. [Workshop](#) for Typhoon, Cloud and Climate Study, **National Taiwan University**, Taipei, Taiwan.

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Atmospheric Sciences, **National Taiwan University**, Taipei, Taiwan.

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Applied Mathematics and Theoretical Physics, **University of Cambridge**, Cambridge, UK.

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Civil and Environmental Engineering, **Northeastern University**, Boston, MA.

### 2016

Large-scale climate controls on extreme climate events. Climate and Ecosystem Sciences Division, **Lawrence Berkeley National Laboratory**, Berkeley, CA.

The Benguela Low-Level Coastal Jet and Ocean Model Biases in the Benguela Coastal Upwelling Region. **U.S. CLIVAR Process Study and Model Improvement (PSMI) Panel Meeting**, Woods Hole, MA.

Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Marine Sciences, **University of North Carolina at Chapel Hill**, Chapel Hill, NC.

Large-scale climate controls on extreme climate events. Department of Geography and Atmospheric Science, **University of Kansas**, Lawrence, KS.

Large-scale climate controls on extreme climate events in the past, present, and future. Department of Geological and Mining Engineering and Sciences, **Michigan Technological University**, Houghton, MI.

Large-scale climate controls on extreme climate events. Department of Environmental Sciences, **University of California, Riverside**, Riverside, CA.

The Influence of El Niño Flavors on Atlantic and North Pacific Tropical Cyclone Activity. **AIR Worldwide**, Boston, MA.

2013

The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity. Climate Group Brown Bag, **Lawrence Berkeley National Laboratory**, Berkeley, CA.

2011

An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model. **International Symposium on Regional Earth System Modeling and Analysis ([RESMA](#))**, Beijing, China.

An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model. **Ocean University of China**, Qingdao, China.